



PATENT
32858/DBP/S307

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent No. : 6,169,368
Issued : January 2, 2001
Inventor(s) : Guy Edward John Margetson; Thomas Andrew Hedges;
Roy Wyatt
Application No. : 09/101,612
Filed : September 14, 1998
Title : VISUAL INFORMATION SYSTEMS

Certificate
JUN 26 2002
of Correction

REQUEST FOR CERTIFICATE OF CORRECTION

Office of Certificates of Correction
Assistant Commissioner for Patents
Washington, D.C. 20231

Post Office Box 7068
Pasadena, CA 91109-7068
June 14, 2002

Commissioner:

Attached are two copies of a proposed Certificate of Correction to correct errors by the Patent Office appearing in the above-referenced patent. The errors are identified in detail in the proposed certificate, and the corresponding text in the application is located as follows:

| <u>Location in Patent</u> | <u>Location in Application</u> |
|---|---|
| Abstract, line 11 | Amendment September 29, 1999, page 6 |
| Notice of Allowability, June 1, 2000, Paper No. 11 | <u>Allowed claims 10-15 and 18-26</u> Claim 10—Amendment 5/5/00, pages 1-2 Claims 11,12—Amendment 9/8/99, Amended Sheet 8 Claim 13—Amendment 9/29/99, pages 2-3 Claim 14—Amendment 9/8/99, Amended Sheet Claim 15—Amendment 12/23/99, pages 1-2 Claims 18-25—Amendment 9/29/99, pages 3-5 Claim 26—Amendment 5/5/00, pages 2-3 |

Approval of this certificate is respectfully requested.

Respectfully submitted,
CHRISTIE, PARKER & HALE

By D. Bruce Prout
D. Bruce Prout
Reg. No. 20,958
626/795-9900

DBP/nk

Enclosures: Certificate of Correction (2)
K:\PROOFING\2002-CertificateCorrection\32858 ReqCert.wpd

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,169,368

Page 1 of 4

DATED : January 2, 2001

INVENTOR(S) : Guy Edward John Margetson; Thomas Andrew Hedges;
Roy Wyatt

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Abstract, line 11, after "perceive the" insert -- said --.

Column 3, line 58 through column 6, line 6, delete claims 1-15 in their entirety and insert therefor the following claims:

- 1. An arrangement comprising a main computer arranged to store a plurality of different programs, each program representing a respective image, and a plurality of visual information systems, each system having:
 - an array consisting of a plurality of individually and selectively energizable light sources arranged in rows and columns;
 - a memory for storing a program representative of a predetermined image;
 - a controller actuatable to control the selection and sequence of energization of the light sources within a predetermined time span in accordance with the predetermined program stored in the memory, so that a viewer observing the array and being carried past the array at a predetermined speed will observe, immediately following said predetermined time span, the predetermined image as an apparently stationary image occupying an area substantially larger than the area of said array; and
 - said main computer being operable to replace the program stored in said memories with one of said different programs stored in said main computer.
- 2. An arrangement according to claim 1 wherein said main computer is programmed to replace the program stored in selected ones of the memories in accordance with the time of day.
- 3. An arrangement according to claim 1 or claim 2 wherein the computer is programmed to replace the program stored in selected ones of the memories in accordance with a location of their associated arrays.

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DATED : January 2, 2001

INVENTOR(S) : Guy Edward John Margetson; Thomas Andrew Hedges;
Roy Wyatt

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

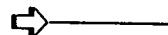
- 4. An arrangement according to claim 1 wherein each said system includes sensing means for monitoring the passage of a carrier carrying said viewer past the array to trigger said controller into action.
- 5. An arrangement according to claim 4 wherein each said sensing means has infrared sensing means arranged to activate said controller upon approach of said carrier to the array and to deactivate the controller upon the departure of said carrier away from said array.
- 6. An arrangement according to claim 4 wherein each said sensing means comprises a first infrared transmitter and receiver pair located upstream of the array and a second infrared and transmitter pair located downstream of the array.
- 7. An arrangement according to claim 1 wherein the controller of each said system is arranged to cyclically repeat the energizations specified by the predetermined program at regular intervals.
- 8. An arrangement according to claim 1 wherein the array of each said system consists of light sources of different colors and wherein the predetermined program specifies different durations of energization of the different colored light sources.
- 9. An arrangement according to claim 1 wherein the controller of each said system is arranged to complete one cycle of the predetermined programs within a period of 0.015 seconds.
- 10. An arrangement according to claim 1 wherein the ratio of rows to columns in each said array is 16:1 or greater.

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INVENTOR(S) : Guy Edward John Margetson; Thomas Andrew Hedges;
Roy Wyatt

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

- 11. An arrangement according to claim 1 wherein in each said system each light source comprises a light emitting diode and the controller includes a driver for driving each light emitting diode, the driver being arranged to vary a period for which its corresponding diode is energized in accordance with the program stored in the memory.
- 12. A transport system having a path along which carriers can pass and a visual display system located adjacent said path, the display system comprising a fiber optic array in which one end of a bundle of optical fibers is arranged so that ends of the individual fibers form a vertically elongate array of rows and columns and ends of the individual fibers at the opposite end of the bundle are connected to an electro-optical interface unit, control means for supplying electrical signals to the interface unit to cause the array to display a succession of images and means for controlling the rate at which the control means supplies said signals in accordance with a speed of the carrier past the display system, and within a time frame related to a persistent time of a human retina to light, whereby an observer on the carrier will perceive apparently simultaneously a single horizontally elongate display consisting of said successive images located side by side.
- 13. A transport system according to claim 12 wherein the control means includes a computer for generating data representative of a desired display, a local data interface for receiving the data, and a processor for processing the received data and storing it in a memory, the processor being arranged to control the interface unit to respond to the data stored in the memory.
- 14. A transport system according to claim 13 wherein the carrier is a train, the path is defined by a train tunnel, and the array is mounted on a wall of the train tunnel and further comprising an on-board transmitter on a passing train

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INVENTOR(S) : Guy Edward John Margetson; Thomas Andrew Hedges;
Roy Wyatt

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

to transmit the data from the computer to supply the interface unit with said data.

-- 15. A transport system having a path along which carriers can pass and a visual display system located adjacent said path, the display system comprising:

a fiber optic array in which one end of a bundle of optical fibers is arranged so that ends of the individual fibers at one end of the bundle form a vertically elongate array of rows and columns and ends of the individual fibers at the opposite end of the bundle are connected to an electro-optical interface unit;

a controller supplying electrical signals to the interface unit to cause the array to display a succession of images; and

a monitor controlling the rate at which the controller supplies said signals in accordance with a speed of the carrier past the system, and within a time frame related to a reaction time of a human retina to light, whereby an observer on the carrier will perceive apparently simultaneously a single horizontally elongate display consisting of said successive images located side by side. --

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UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTIONPATENT NO. : 6,169,368 *B1*

Page 1 of 4

DATED : January 2, 2001

INVENTOR(S) : Guy Edward John Margetson; Thomas Andrew Hedges;
Roy Wyatt

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

TRADE MARKS

Abstract, line 11, after "perceive the" insert -- said --.

Column 3, line 58 through column 6, line 6, delete claims 1-15 in their entirety and insert therefor the following claims:

- 1. An arrangement comprising a main computer arranged to store a plurality of different programs, each program representing a respective image, and a plurality of visual information systems, each system having:
 - an array consisting of a plurality of individually and selectively energizable light sources arranged in rows and columns;
 - a memory for storing a program representative of a predetermined image;
 - a controller actuatable to control the selection and sequence of energization of the light sources within a predetermined time span in accordance with the predetermined program stored in the memory, so that a viewer observing the array and being carried past the array at a predetermined speed will observe, immediately following said predetermined time span, the predetermined image as an apparently stationary image occupying an area substantially larger than the area of said array; and
 - said main computer being operable to replace the program stored in said memories with one of said different programs stored in said main computer.
- 2. An arrangement according to claim 1 wherein said main computer is programmed to replace the program stored in selected ones of the memories in accordance with the time of day.
- 3. An arrangement according to claim 1 or claim 2 wherein the computer is programmed to replace the program stored in selected ones of the memories in accordance with a location of their associated arrays.

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

- 4. An arrangement according to claim 1 wherein each said system includes sensing means for monitoring the passage of a carrier carrying said viewer past the array to trigger said controller into action.
- 5. An arrangement according to claim 4 wherein each said sensing means has infrared sensing means arranged to activate said controller upon approach of said carrier to the array and to deactivate the controller upon the departure of said carrier away from said array.
- 6. An arrangement according to claim 4 wherein each said sensing means comprises a first infrared transmitter and receiver pair located upstream of the array and a second infrared and transmitter pair located downstream of the array.
- 7. An arrangement according to claim 1 wherein the controller of each said system is arranged to cyclically repeat the energizations specified by the predetermined program at regular intervals.
- 8. An arrangement according to claim 1 wherein the array of each said system consists of light sources of different colors and wherein the predetermined program specifies different durations of energization of the different colored light sources.
- 9. An arrangement according to claim 1 wherein the controller of each said system is arranged to complete one cycle of the predetermined programs within a period of 0.015 seconds.
- 10. An arrangement according to claim 1 wherein the ratio of rows to columns in each said array is 16:1 or greater.

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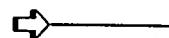
- 11. An arrangement according to claim 1 wherein in each said system each light source comprises a light emitting diode and the controller includes a driver for driving each light emitting diode, the driver being arranged to vary a period for which its corresponding diode is energized in accordance with the program stored in the memory.
- 12. A transport system having a path along which carriers can pass and a visual display system located adjacent said path, the display system comprising a fiber optic array in which one end of a bundle of optical fibers is arranged so that ends of the individual fibers form a vertically elongate array of rows and columns and ends of the individual fibers at the opposite end of the bundle are connected to an electro-optical interface unit, control means for supplying electrical signals to the interface unit to cause the array to display a succession of images and means for controlling the rate at which the control means supplies said signals in accordance with a speed of the carrier past the display system, and within a time frame related to a persistent time of a human retina to light, whereby an observer on the carrier will perceive apparently simultaneously a single horizontally elongate display consisting of said successive images located side by side.
- 13. A transport system according to claim 12 wherein the control means includes a computer for generating data representative of a desired display, a local data interface for receiving the data, and a processor for processing the received data and storing it in a memory, the processor being arranged to control the interface unit to respond to the data stored in the memory.
- 14. A transport system according to claim 13 wherein the carrier is a train, the path is defined by a train tunnel, and the array is mounted on a wall of the train tunnel and further comprising an on-board transmitter on a passing train

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

to transmit the data from the computer to supply the interface unit with said data.

-- 15. A transport system having a path along which carriers can pass and a visual display system located adjacent said path, the display system comprising:

a fiber optic array in which one end of a bundle of optical fibers is arranged so that ends of the individual fibers at one end of the bundle form a vertically elongate array of rows and columns and ends of the individual fibers at the opposite end of the bundle are connected to an electro-optical interface unit;

a controller supplying electrical signals to the interface unit to cause the array to display a succession of images; and

a monitor controlling the rate at which the controller supplies said signals in accordance with a speed of the carrier past the system, and within a time frame related to a reaction time of a human retina to light, whereby an observer on the carrier will perceive apparently simultaneously a single horizontally elongate display consisting of said successive images located side by side. --

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INVENTOR(S) : Guy Edward John Margetson, Thomas Andrew Hedges and Roy Wyatt

Page 1 of 4

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Title page.

Item [57], **ABSTRACT**,

Line 11, after "perceive the" insert -- said --.

Column 3, line 58, through Column 6, line 6,

Delete claims 1-15 in their entirety and insert therefor the following claims:

-- 1. An arrangement comprising a main computer arranged to store a plurality of different programs, each program representing a respective image, and a plurality of visual information systems, each system having:
an array consisting of a plurality of individually and selectively energizable light sources arranged in rows and columns;
a memory for storing a program representative of a predetermined image;
a controller actuatable to control the selection and sequence of energization of the light sources within a predetermined time span in accordance with the predetermined program stored in the memory, so that a viewer observing the array and being carried past the array at a predetermined speed will observe, immediately following said predetermined time span, the predetermined image as an apparently stationary image occupying an area substantially larger than the area of said array; and
said main computer being operable to replace the program stored in said memories with one of said different programs stored in said main computer.

-- 2. An arrangement according to claim 1 wherein said main computer is programmed to replace the program stored in selected ones of the memories in accordance with the time of day.

-- 3. An arrangement according to claim 1 or claim 2 wherein the computer is programmed to replace the program stored in selected ones of the memories in accordance with a location of their associated arrays.

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Page 2 of 4

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

- 4. An arrangement according to claim 1 wherein each said system includes sensing means for monitoring the passage of a carrier carrying said viewer past the array to trigger said controller into action.
- 5. An arrangement according to claim 4 wherein each said sensing means has infrared sensing means arranged to activate said controller upon approach of said carrier to the array and to deactivate the controller upon the departure of said carrier away from said array.
- 6. An arrangement according to claim 4 wherein each said sensing means comprises a first infrared transmitter and receiver pair located upstream of the array and a second infrared and transmitter pair located downstream of the array.
- 7. An arrangement according to claim 1 wherein the controller of each said system is arranged to cyclically repeat the energizations specified by the predetermined program at regular intervals.
- 8. An arrangement according to claim 1 wherein the array of each said system consists of light sources of different colors and wherein the predetermined program specifies different durations of energization of the different colored light sources.
- 9. An arrangement according to claim 1 wherein the controller of each said system is arranged to complete one cycle of the predetermined programs within a period of 0.015 seconds.
- 10. An arrangement according to claim 1 wherein the ratio of rows to columns in each said array is 16:1 or greater.
- 11. An arrangement according to claim 1 wherein in each said system each light source comprises a light emitting diode and the controller includes a driver for driving each light emitting diode, the driver being arranged to vary a period for which its corresponding diode is energized in accordance with the program stored in the memory.

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

-- 12. A transport system having a path along which carriers can pass and a visual display system located adjacent said path, the display system comprising a fiber optic array in which one end of a bundle of optical fibers is arranged so that ends of the individual fibers form a vertically elongate array of rows and columns and ends of the individual fibers at the opposite end of the bundle are connected to an electro-optical interface unit, control means for supplying electrical signals to the interface unit to cause the array to display a succession of images and means for controlling the rate at which the control means supplies said signals in accordance with a speed of the carrier past the display system, and within a time frame related to a persistent time of a human retina to light, whereby an observer on the carrier will perceive apparently simultaneously a single horizontally elongate display consisting of said successive images located side by side.

-- 13. A transport system according to claim 12 wherein the control means includes a computer for generating data representative of a desired display, a local data interface for receiving the data, and a processor for processing the received data and storing it in a memory, the processor being arranged to control the interface unit to respond to the data stored in the memory.

-- 14. A transport system according to claim 13 wherein the carrier is a train, the path is defined by a train tunnel, and the array is mounted on a wall of the train tunnel and further comprising an on-board transmitter on a passing train to transmit the data from the computer to supply the interface unit with said data.

-- 15. A transport system having a path along which carriers can pass and a visual display system located adjacent said path, the display system comprising:
a fiber optic array in which one end of a bundle of optical fibers is arranged so that ends of the individual fibers at one end of the bundle form a vertically elongate array of rows and columns and ends of the individual fibers at the opposite end of the bundle are connected to an electro-optical interface unit;